CONTENTS OF VOLUME 5

NUMBER 1

REVIEW ARTICLE

Tutorial to Robust Statistics
P. J. Rousseeuw 1

ORIGINAL RESEARCH ARTICLES

Use of the Wronskian Determinant in the Study of Multicomponent Systems
S. P. Koinis, A. T. Tsatsas and D. F. Katakis 21

Generalized Simulated Annealing for Calibration Sample Selection from an Existing Set and Orthogonalization of Undesigned Experiments
J. H. Kalivas 37

Splitting of Calibration Data by Cluster Analysis
T. Naes and T. Isaksson 49

BOOK REVIEWS 67

ANNOUNCEMENT 69

NUMBER 2

Editorial 71

ORIGINAL RESEARCH ARTICLES

A New Serial Method for Searching the Optimum Operating Conditions of a Technological Process
V. Tran, J.-L. Morat and D. Bertrand 73

The Use of a Ratio Method as an Alternative to Constrained Deconvolution
P. B. Crilly 85

Regression on Multivariate Images: Principal Component Regression for Modeling, Prediction and Visual Diagnostic Tools
P. Geladi and K. Esbensen 97

LABORATORY PROFILE 113

ANNOUNCEMENTS 117

NUMBER 3

Papers presented at the Symposium on Chemometrics with Environmental Applications held in Las Vegas, Nevada, 30 October–1 November 1990
Guest Editor: M. A. Stapanian

Some Issues in Chemometrics with Environmental Applications
M. A. Stapanian 121

Invited paper. Recent Developments in Multivariate Calibration
B. R. Kowalski and M. B. Seasholtz 129

Invited paper. Real-Time Filtering of Data from Mobile, Passive Remote Infrared Sensors with Principal Component Models of Background
S. D. Brown 147

Invited paper. Examining Large Databases: a Chemometric Approach Using Principal Component Analysis
R. R. Meglen 163

Invited paper. Experimental Design in Chemometrics
S. N. Deming, J. A. Palasota and J. M. Palasota 181

Simultaneous Analysis of Co(II), Ni(II), Cu(II), Zn(II) and Cd(II) by Spectrophotometry and the Kalman Filter
L. Shi, Z. Li, Z. Xu, Z. Pan and L. Wang 193

Step Function Technique for Estimating Data Uncertainty in Experimental Results
M. J. Miah 201

Expectation–Maximization Algorithm for Regression, Deconvolution and Smoothing of Shot-noise Limited Data
S. E. Bialkowski 211

Box–Cox Transformations in the Analysis of Compositional Data
W. S. Rayens and C. Srinivasan 227

Finding Causes of Outliers in Multivariate Environmental Data
F. C. Garner, M. A. Stapanian and K. E. Fitzgerald 241

A Statistical Procedure to Evaluate Clean-up Standards
R. O'Brien, B. K. Sinha and W. P. Smith 249

The Quality of Mean and Variance Estimates for Normal and Lognormal Data When the Underlying Distribution is Misspecified
L. G. Blackwood 263

Correspondence Analysis Used in the Evaluation of Lakewater Chemistry in the Adirondacks
H. R. Rhodes and D. E. Myers 273

Estimation of Errors in Absorbance Ratio Measurements
M. Sharaf, G. Arroy and R. Perkins 291

Likelihood Techniques for Interlaboratory Calibration in the National Stream Survey
T. Permutt, S. D. Edland, M. Moezzi and S. C. Grosser 299

On Confidence Intervals for the Product of Three Means of Three Normally Distributed Populations
E. A. Yfantis and G. T. Flatman 309

Comparison of Two Screening Methods for the Detection of Volatile Organic Compounds in Ground Water
R. Rajagopal and P.-C. Li 321

NUMBER 4

ORIGINAL RESEARCH ARTICLES

A Bootstrap Resampling Scheme for Using the Canonical Correlation Technique in Rank Estimation
X. M. Tu 333

Three-way Methods for the Calibration of Chromatographic Systems: Comparing PARAFAC and Three-way PLS
A. K. Smilde and D. A. Doornbos 345

Estimation in Compositional Data Analysis
W. S. Rayens and C. Srinivasan 361

A Test of Three Fitting Criteria for Multiresponse Non-linear Modeling
R. J. Pell and B. R. Kowalski 375

Comparison of Pattern Recognition Descriptors for Chemical Acoustic Emission Analysis
P. D. Wentzell, O. Lee and A. P. Wade 389

LABORATORY PROFILE 405

BOOK REVIEW 411

SOFTWARE REVIEW 413

ANNOUNCEMENT 416

NUMBER 5

ORIGINAL RESEARCH ARTICLES

Rapid Estimation of the Number of Coeluting Components in Liquid Chromatography by Factor Analysis
C. Shen, T. J. Vickers and C. K. Mann 417

A Class-modelling Technique Based on Potential Functions
M. Forina, C. Armanino, R. Leardi and G. Drava 435

Correspondence Analysis and Adsorbate Selection for Chemical Sensor Arrays
F. Avila, D. E. Myers and C. Palmer 455

Fuzzy Multivariate Rule-building Expert Systems: Minimal Neural Networks
P. B. Harrington 467

NUMBER 6

ORIGINAL RESEARCH ARTICLES
Multivariate Calibration when Data are Split into Subsets
T. Naes 487

Rank-order Analysis for Robust Multiresponse, Multiblock Comparisons: Evaluation of Herbicide Interactions
D. L. Duewer and R. D. Clark 503

Comparison of Measurement Methods Based on a Model for the Error Structure
G. Nilsson 523

LABORATORY PROFILE 537

BOOK REVIEWS 545

AUTHOR INDEX 548

KEY WORD INDEX 549